

FIG. 1

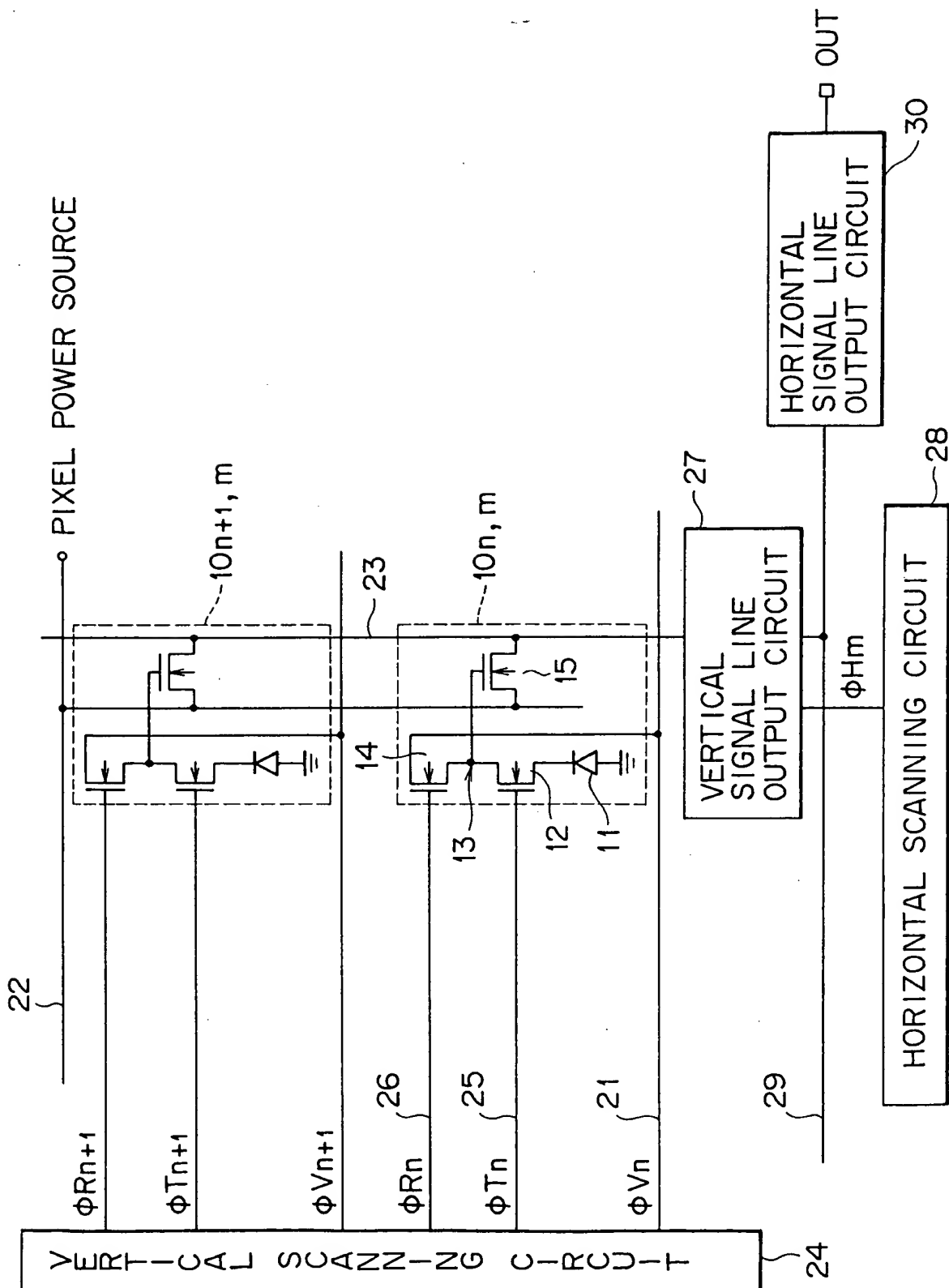
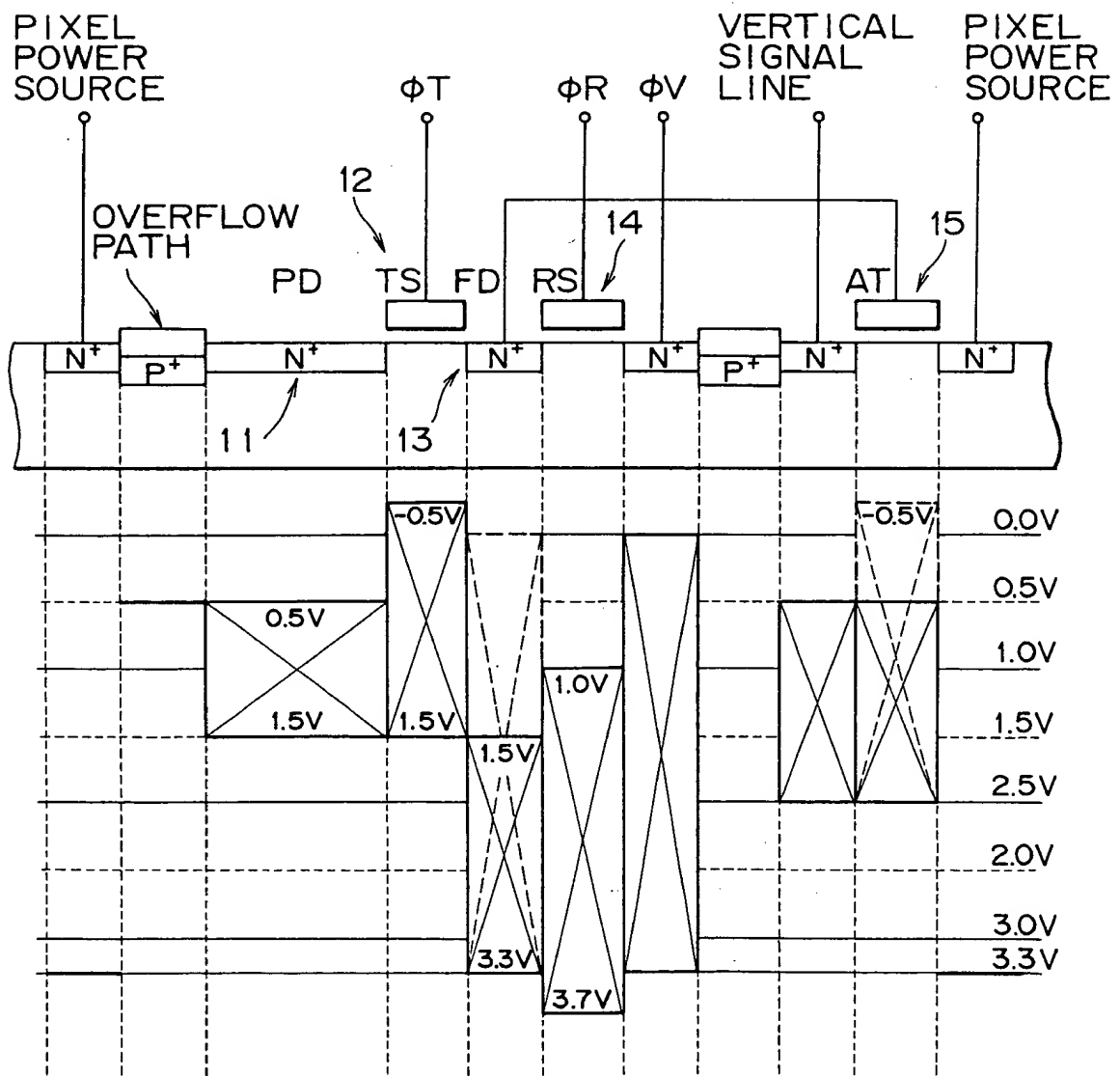


FIG. 2



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FIG. 3

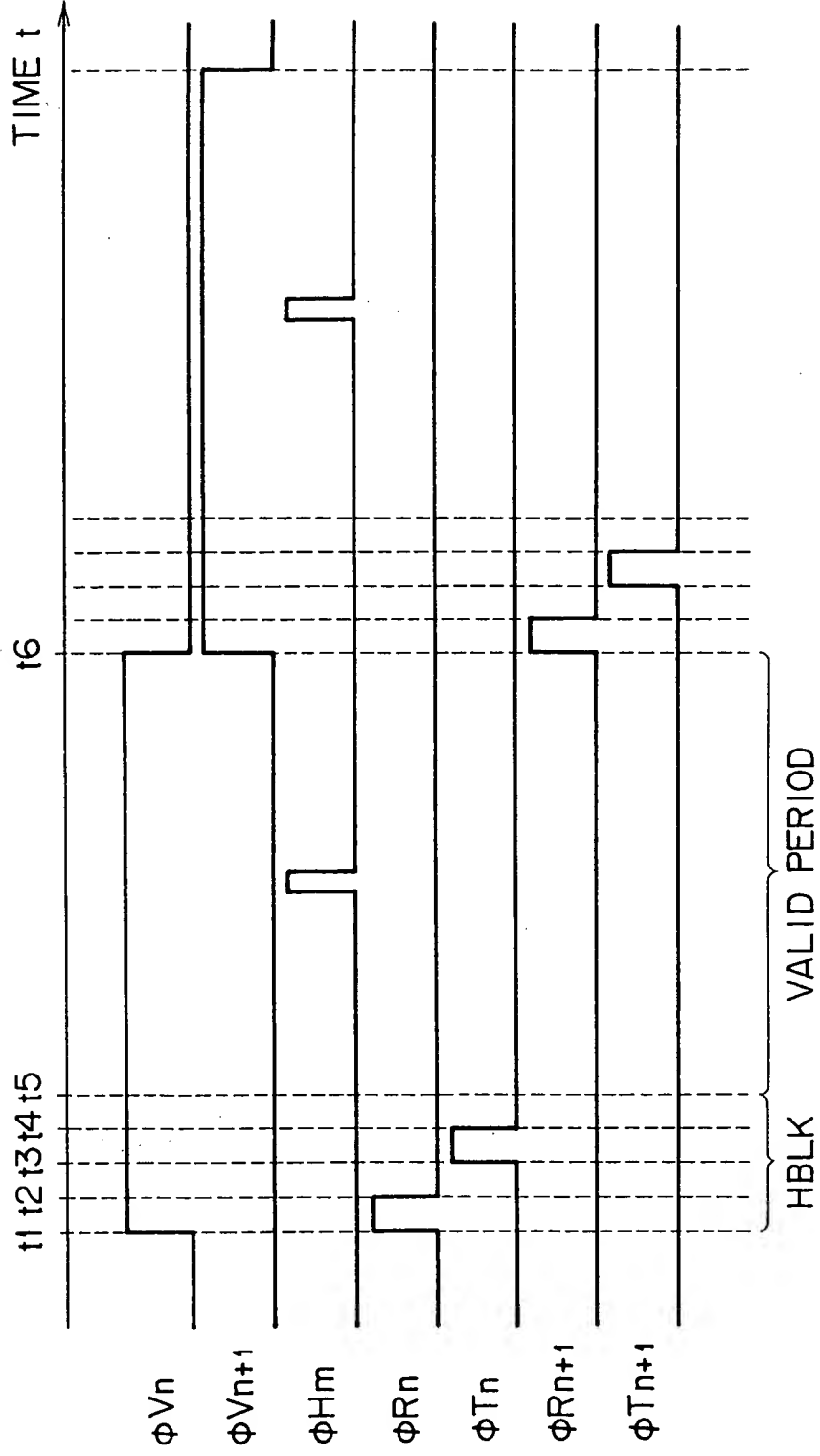


FIG. 4A $t < t_1$ NON-SELECTION STATE

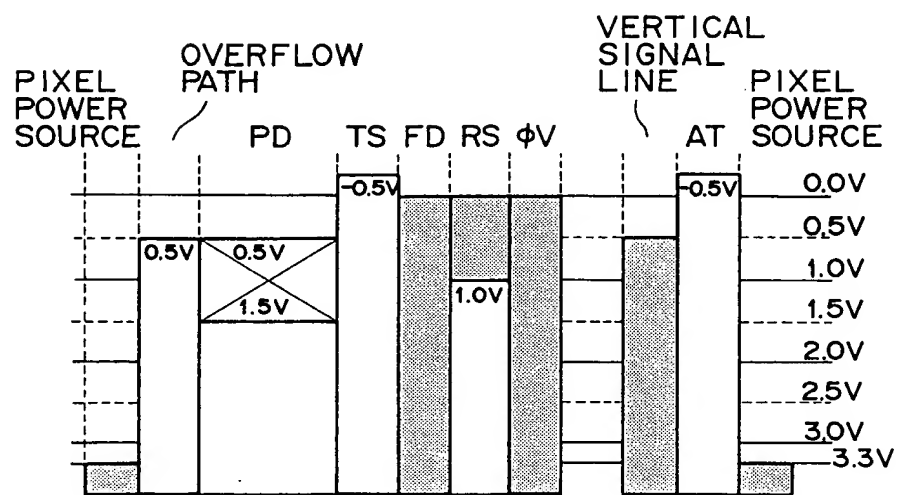


FIG. 4B $t_1 < t < t_2$ FD RESET

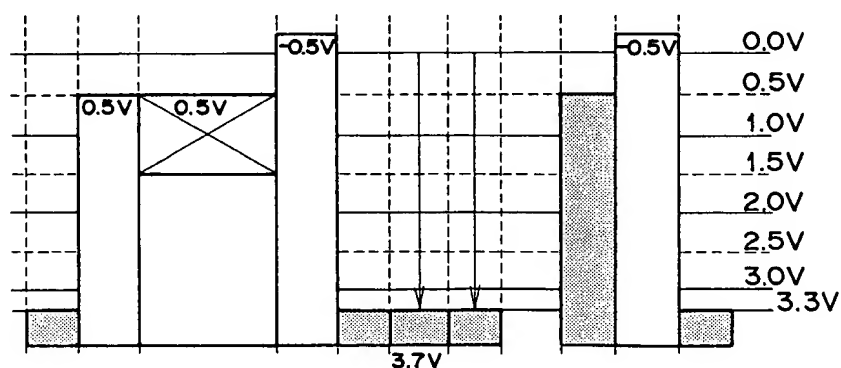
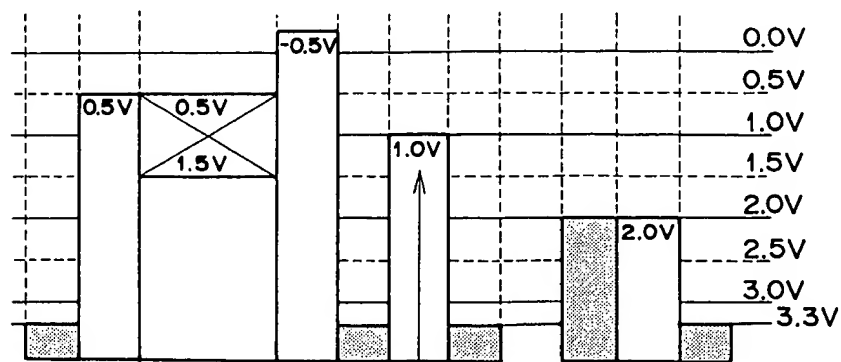


FIG. 4C $t_2 < t < t_3$ OFFSET LEVEL (NOISE LEVEL) READ-OUT



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1558090.E2522E60

FIG. 5A $t_3 < t < t_4$ TRANSFER OF SIGNAL CHARGE FROM PD TO FD

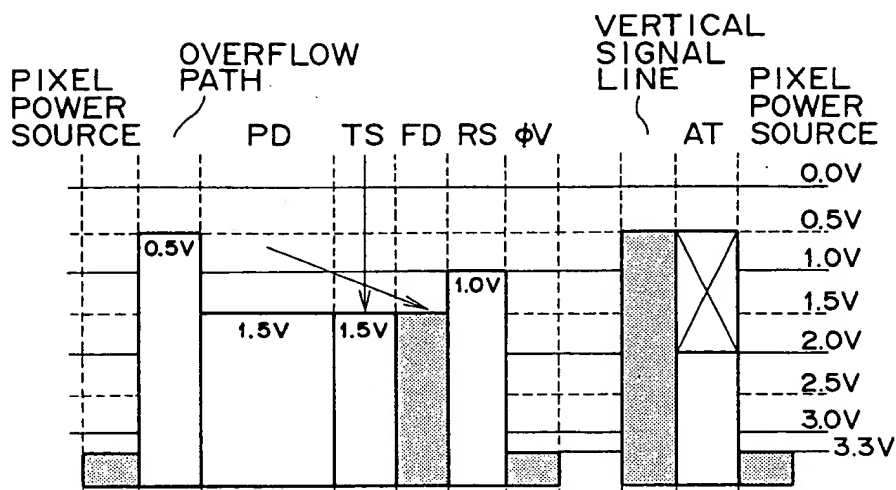


FIG. 5B $t_4 < t < t_5$ SIGNAL LEVEL READ-OUT

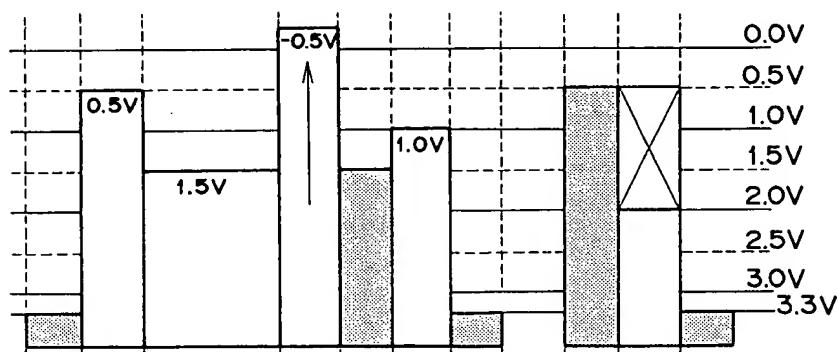


FIG. 5C $t_6 < t$ NON-SELECTION STATE

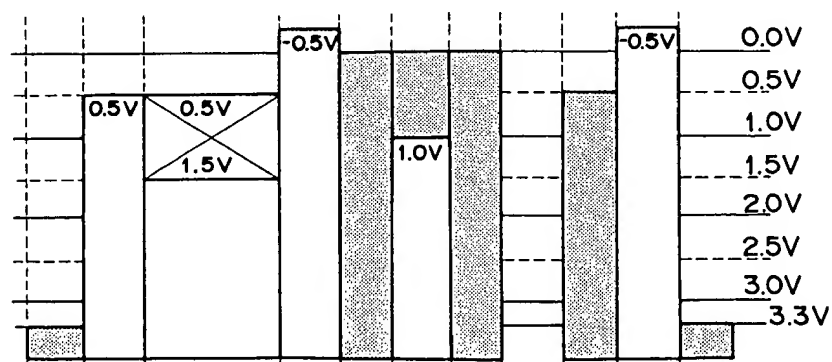
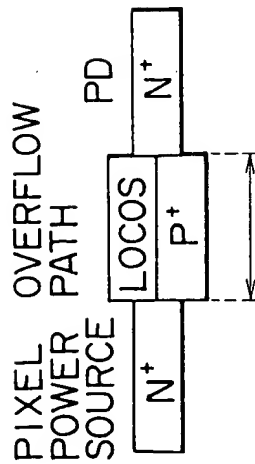
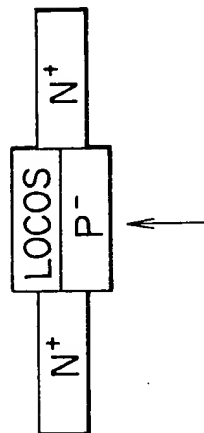


FIG. 6A



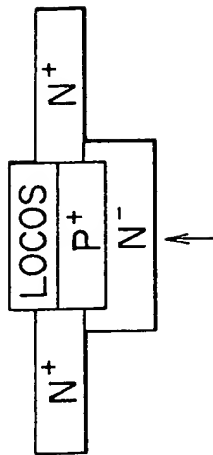
THE DISTANCE IS REDUCED

FIG. 6B



THE DENSITY OF P REGION OF CHANNEL STOP IS REDUCED

FIG. 6C



N- REGION IS POSITIVELY FORMED

FIG. 6D

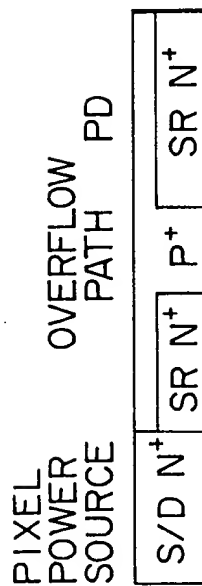


FIG. 6E

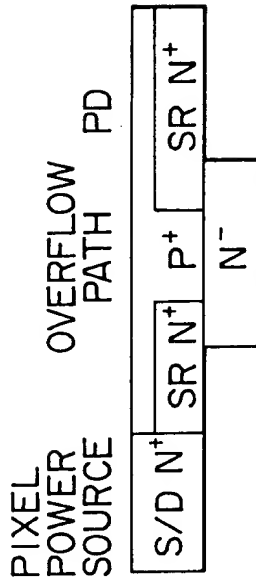
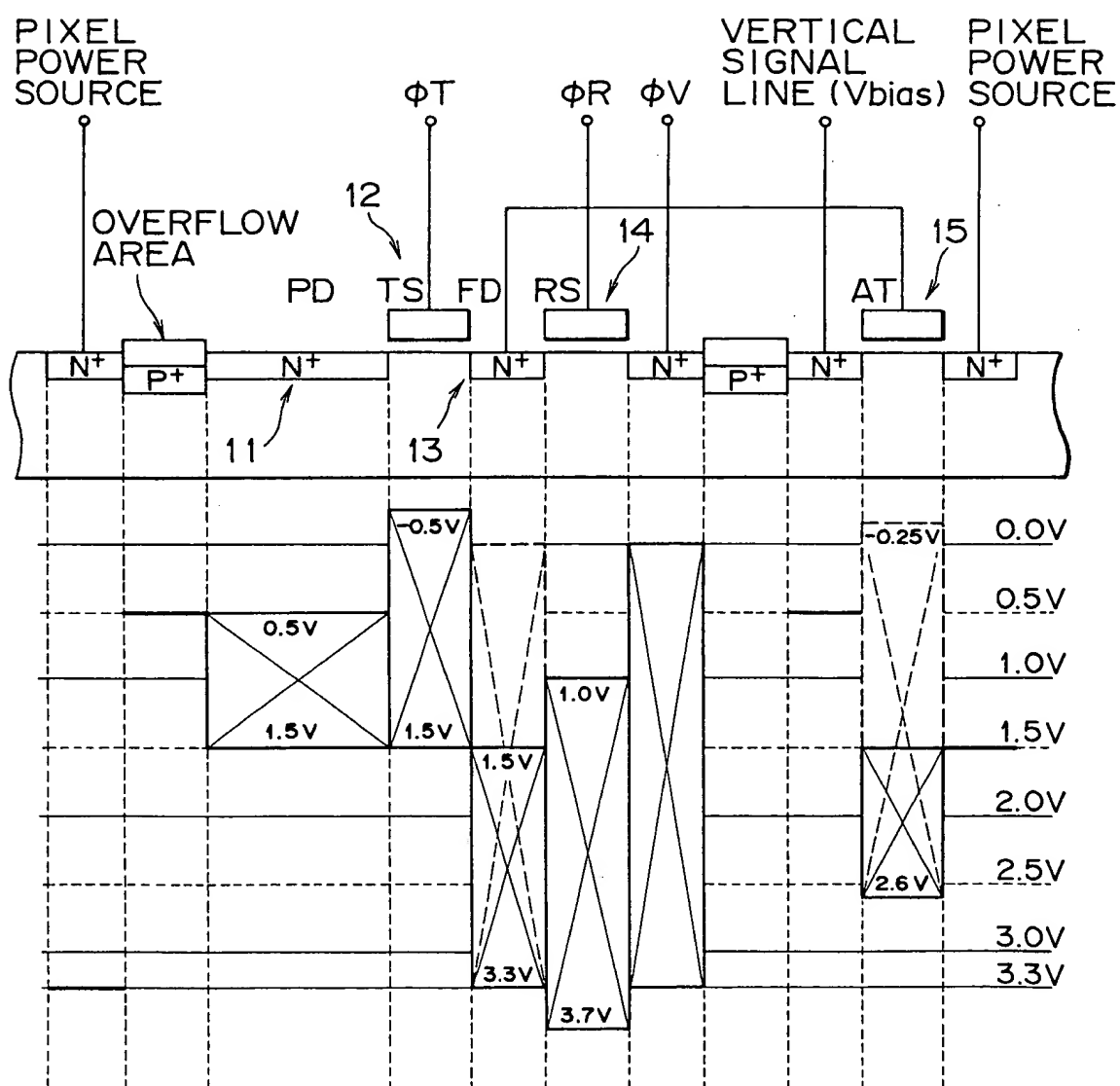


FIG. 8



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FIG. 9

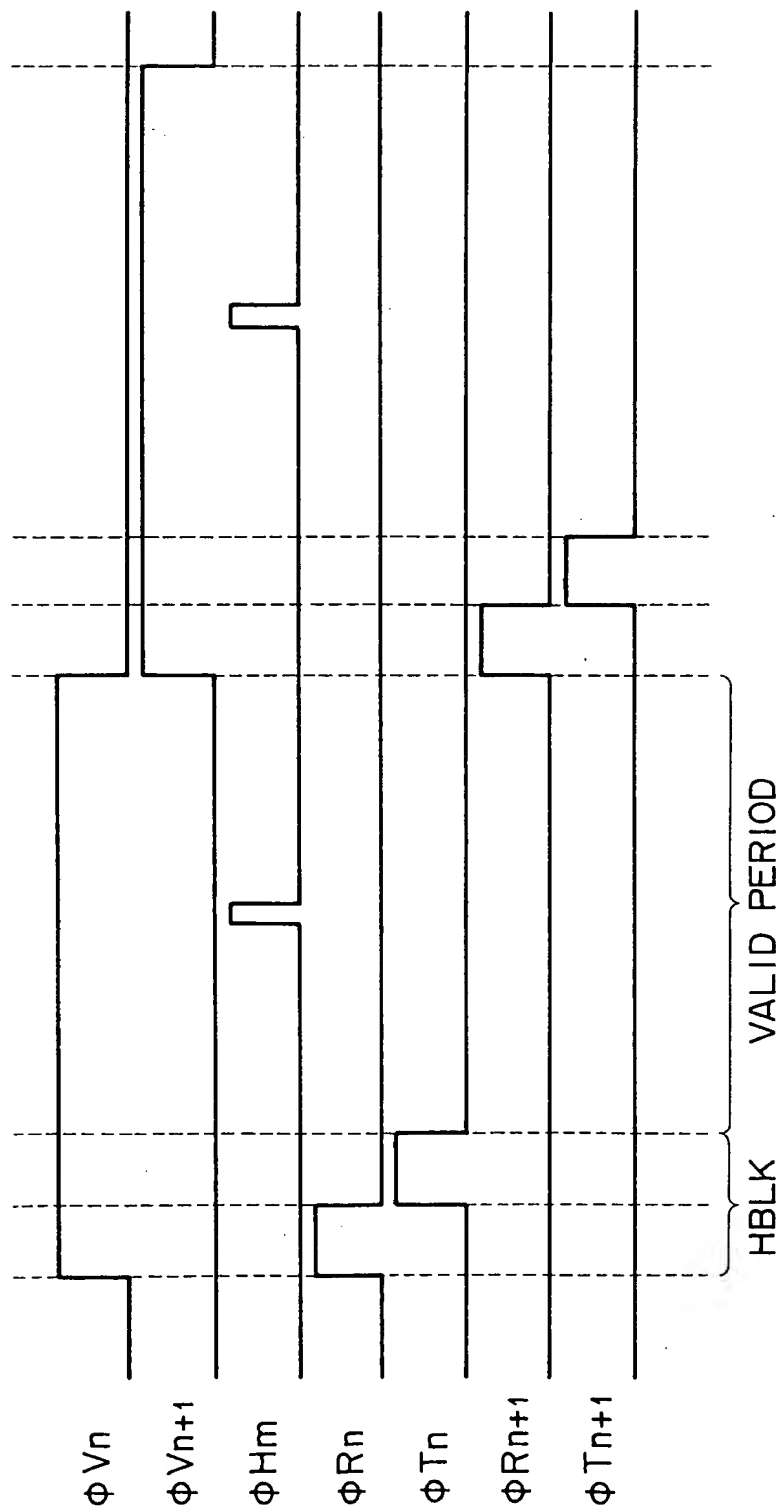


FIG. 10

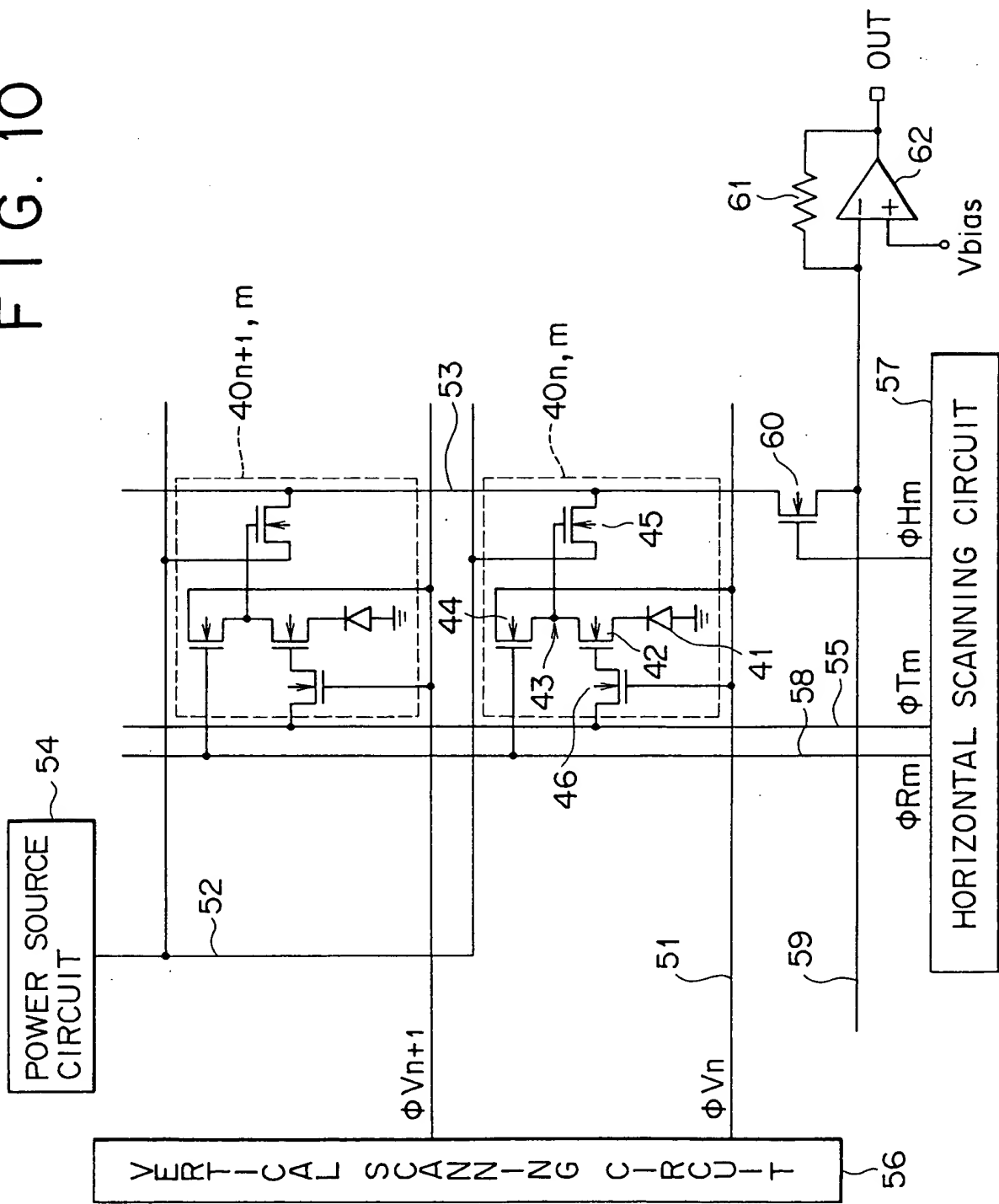


FIG. 11

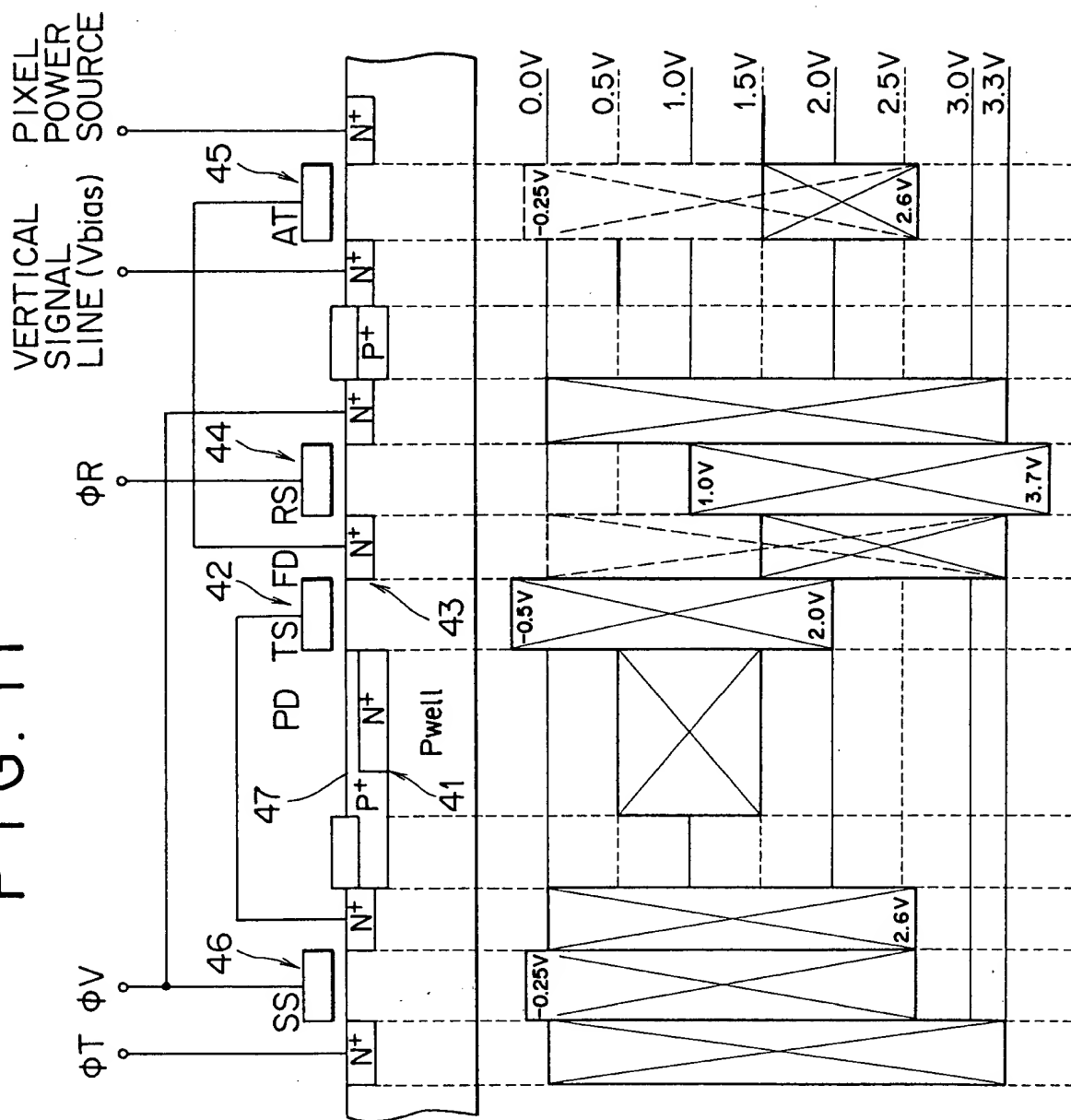


FIG. 12

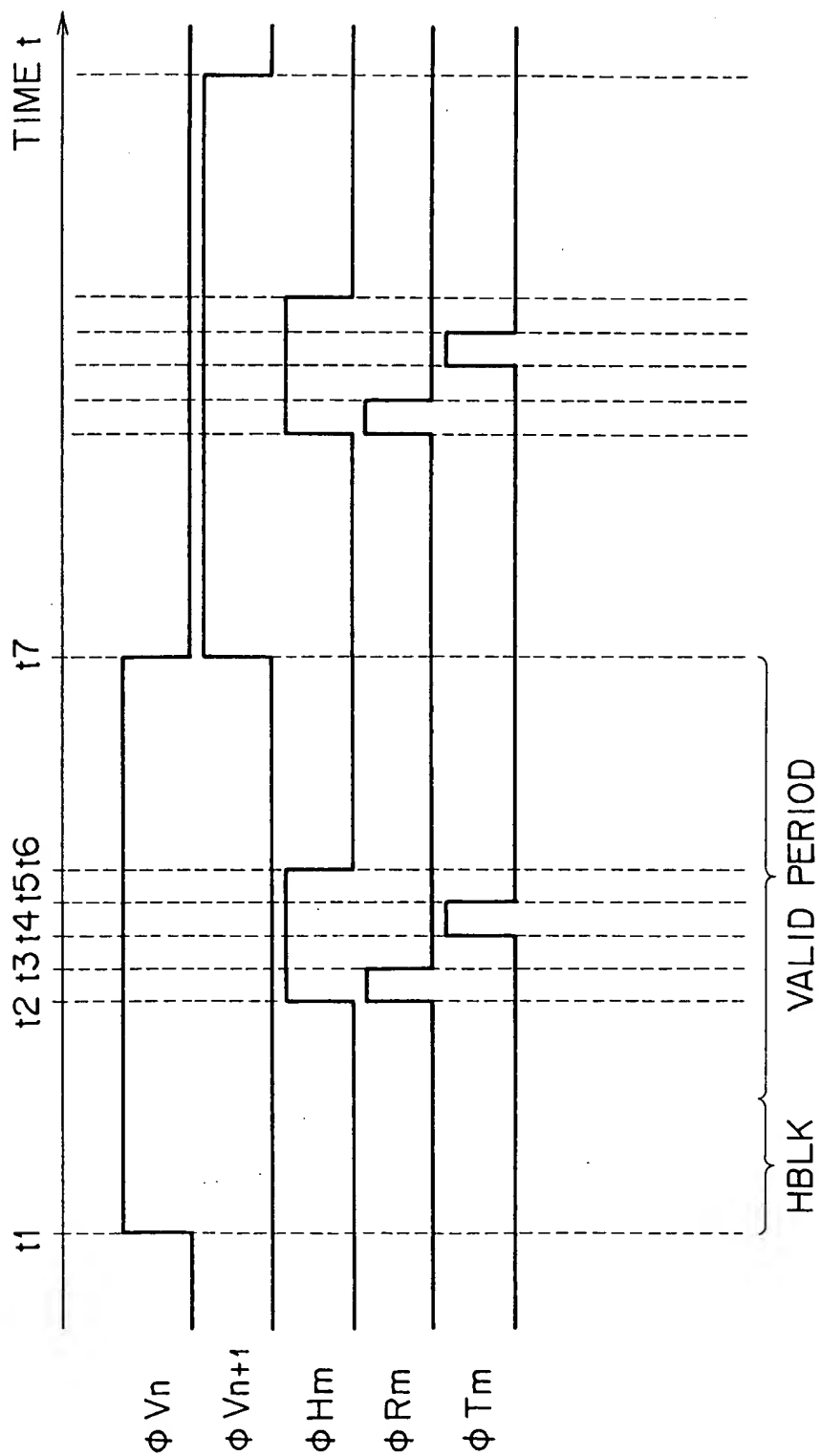


FIG. 13A $t < t_1$ NON-SELECTION STATE

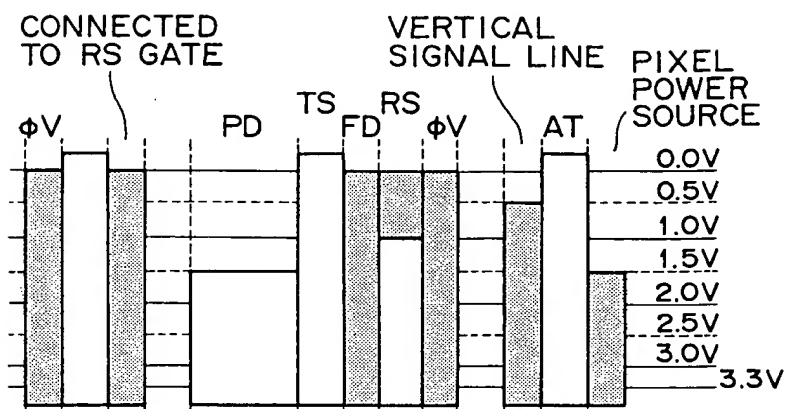


FIG. 13B $t_1 < t < t_2$ SELECTION

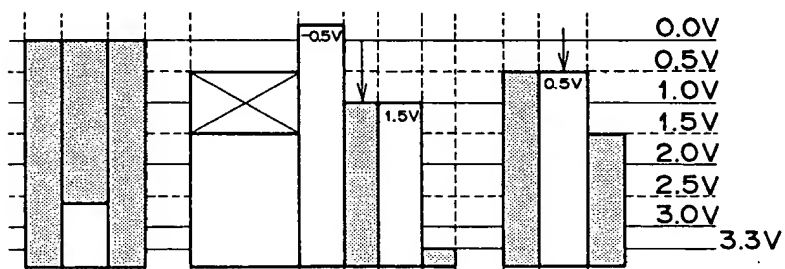


FIG. 13C $t_2 < t < t_3$ FD RESET

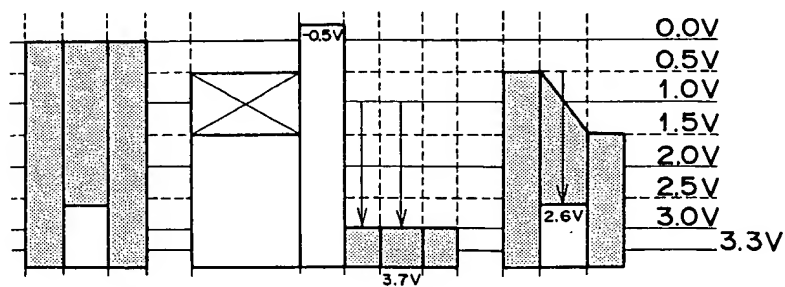
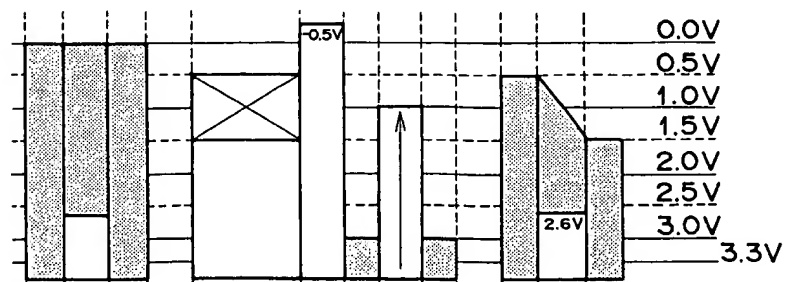


FIG. 13D $t_3 < t < t_4$ FD RESET



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FIG. 15A $t < t_1$

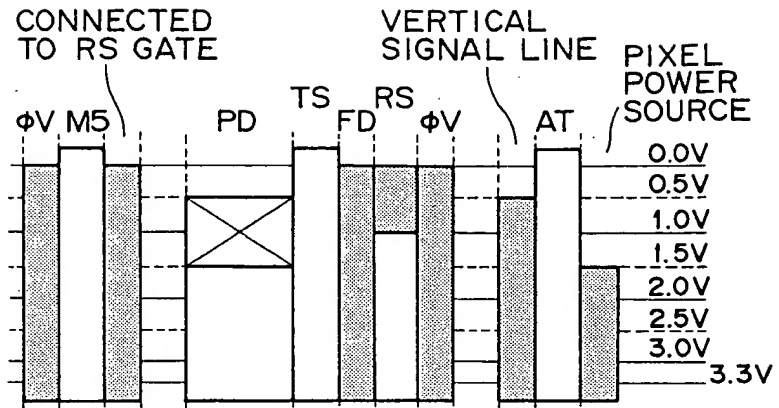


FIG. 15B $t_1 < t < t_2$

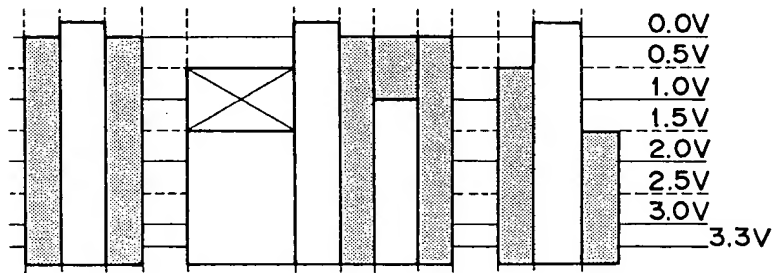


FIG. 15C $t_2 < t < t_3$

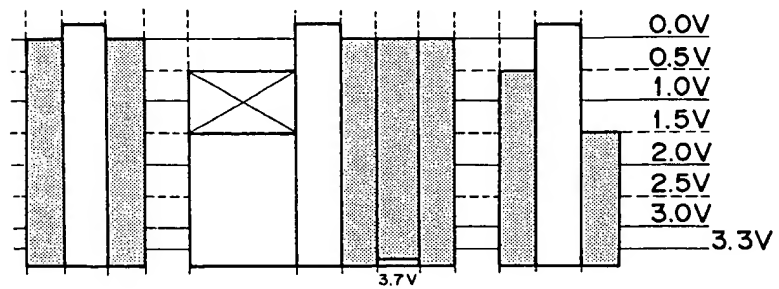


FIG. 15D $t_3 < t < t_4$

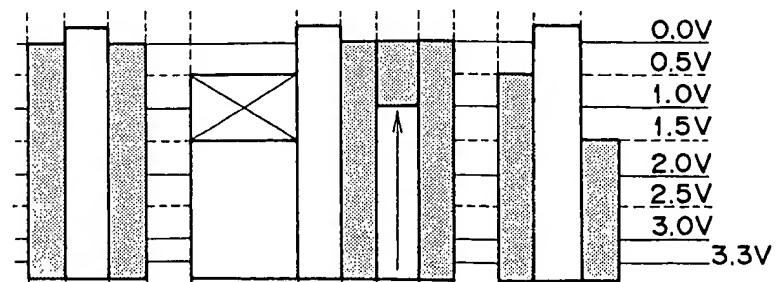


FIG. 16A $t_4 < t < t_5$

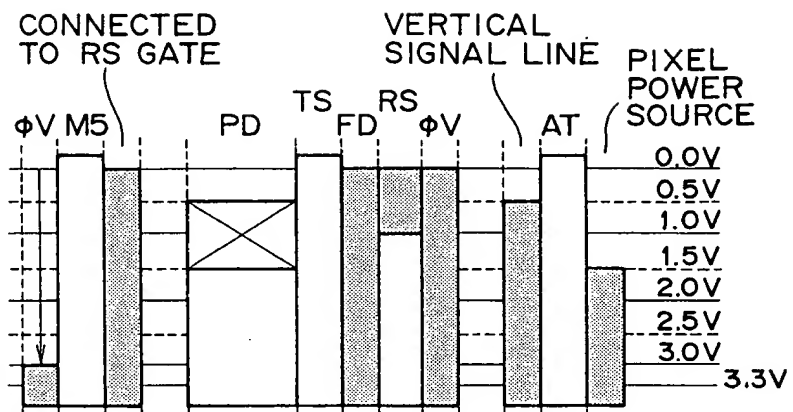


FIG. 16B $t_5 < t < t_6$

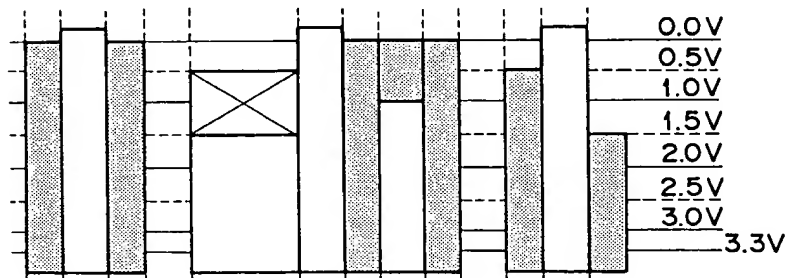


FIG. 16C $t_7 < t$

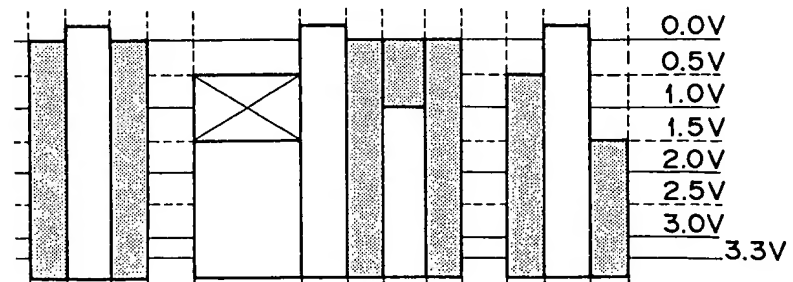


FIG. 17

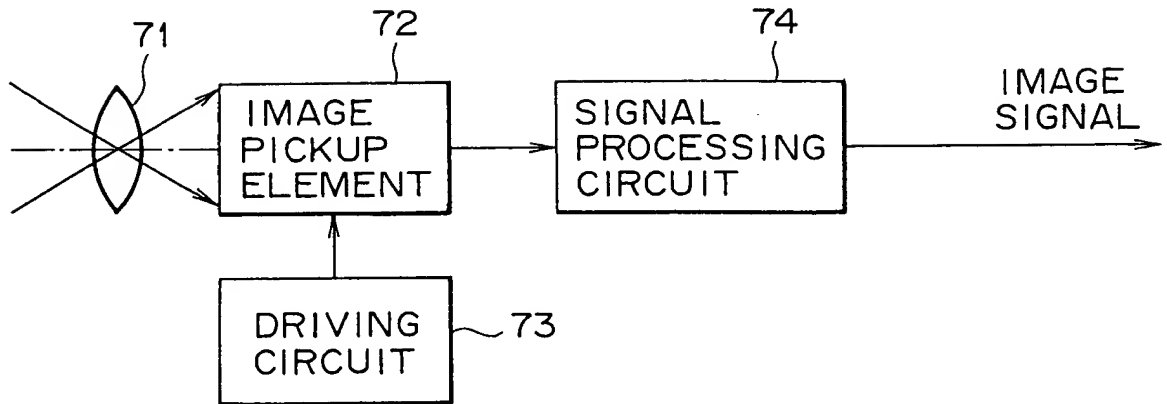


FIG. 18

